

Brazilian Peppertree, *Schinus terebinthifolius*: Prolific Pest of Port Aransas, Texas

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The Pest



Brazilian Peppertree (SCTE)
Schinus terebinthifolius

Native to South America, this perennial broadleaf evergreen shrub is highly invasive. Bright red berry clusters are attractive to birds and wildlife, which spread the seed. Basal propagation and root sprouting are also common. Extremely aggressive on disturbed sites, very dense thickets are formed, shading out competing vegetation.

The Port



Port Aransas is located on Mustang Island on the Gulf Coast of Texas. This 18 mile-long barrier island lies immediately north of Padre Island, the longest barrier island in the world. Since Brazilian peppertree was first identified on the island in 2006, efforts to combat this invasive plant have been concentrated on the 1,217-acre Charlie's Pasture Nature Preserve.

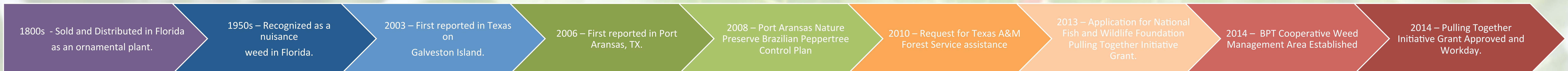
The Peppertree Paradox



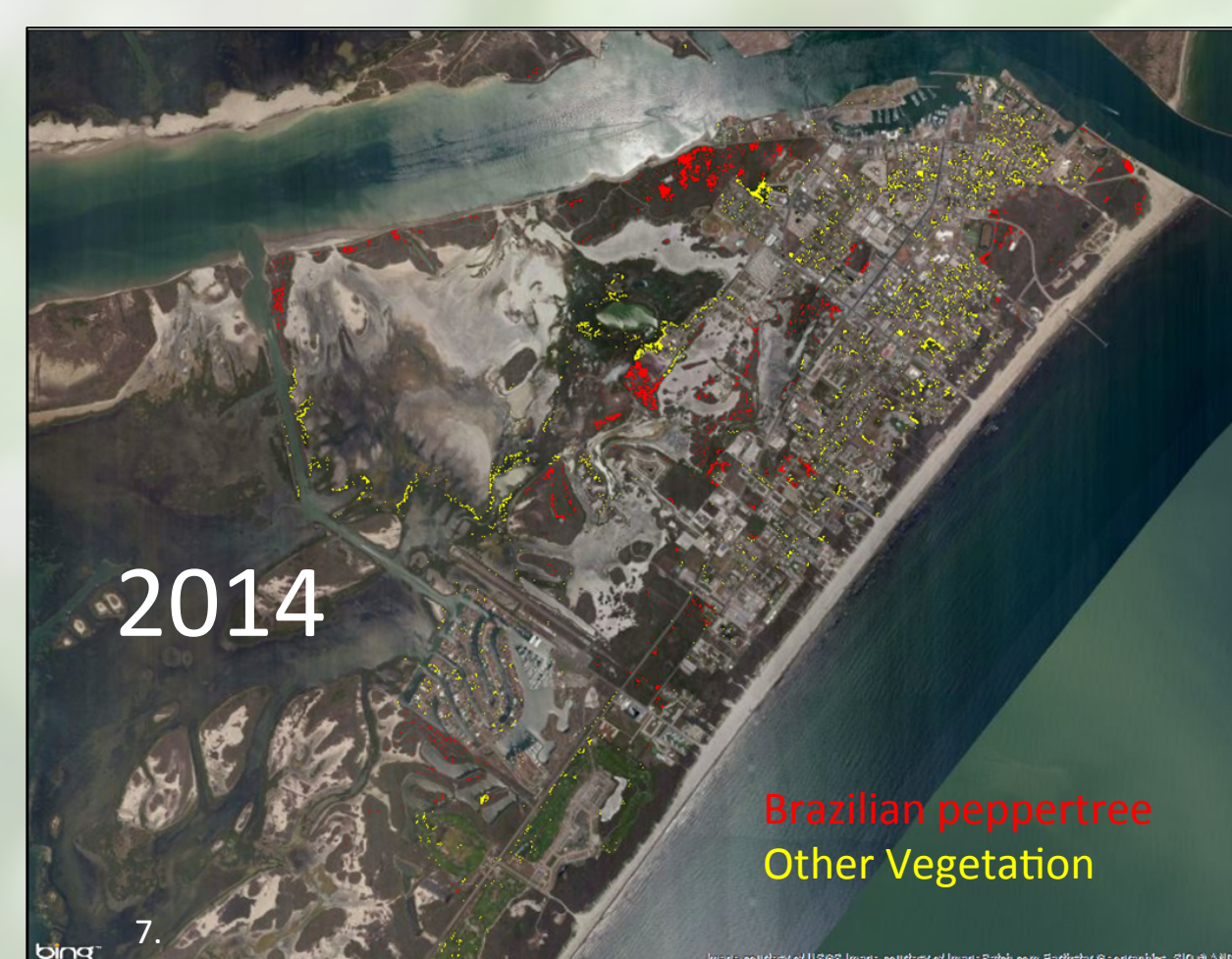
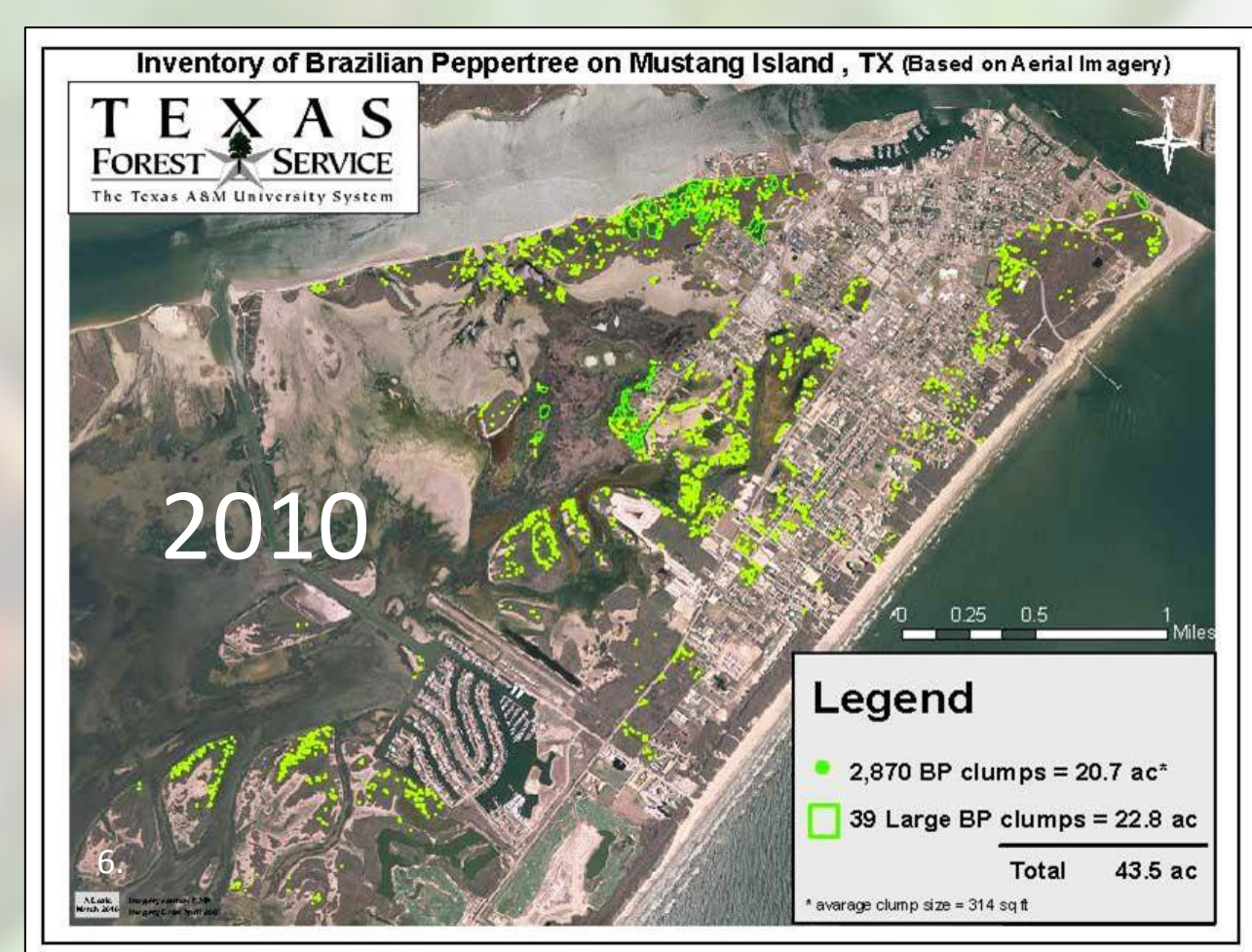
Tourism, especially birding, comprises a significant portion of the Port Aransas economy. Endangered whooping cranes overwinter and many other migratory bird species use the island as a transit point, utilizing the island's sparse vegetation. Therefore, removing vegetation (even invasive Brazilian peppertree) is anathema to some local residents. Removal efforts thus become political.



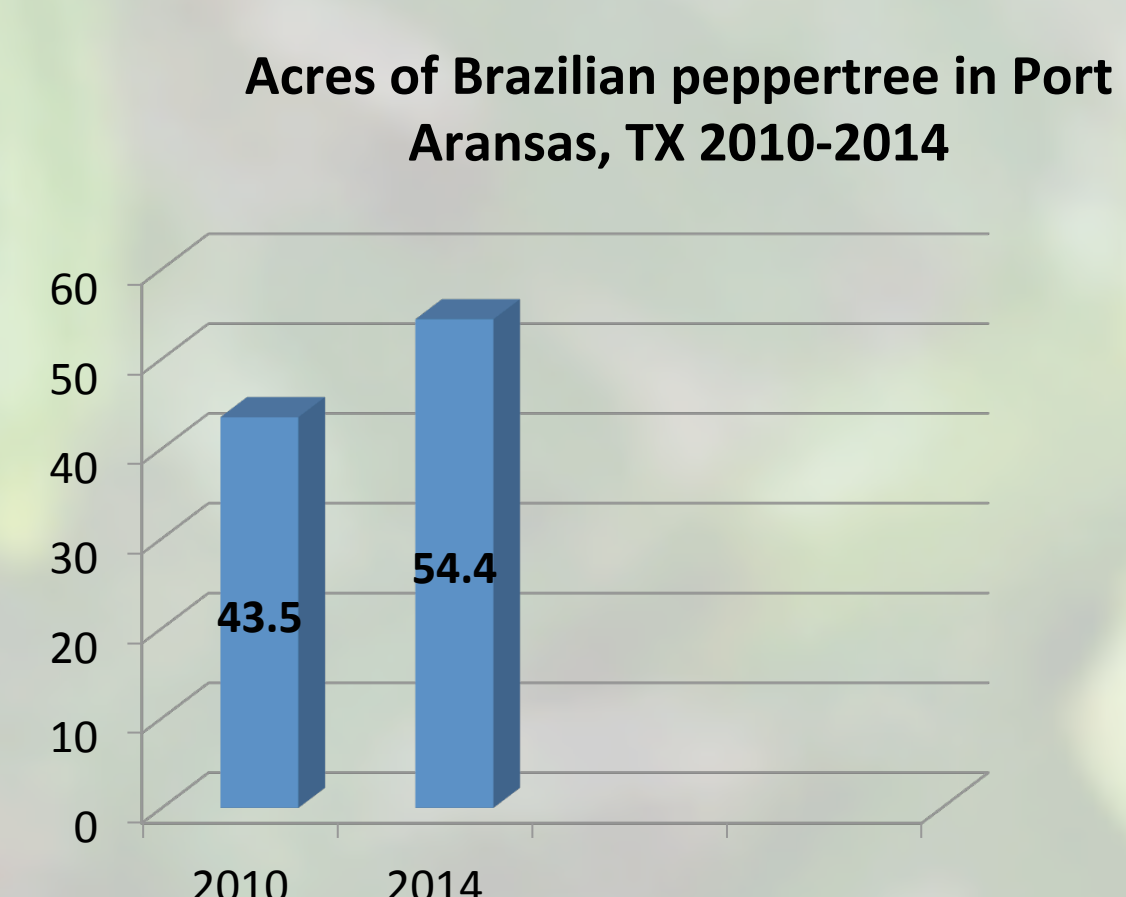
Brazilian Peppertree Timeline



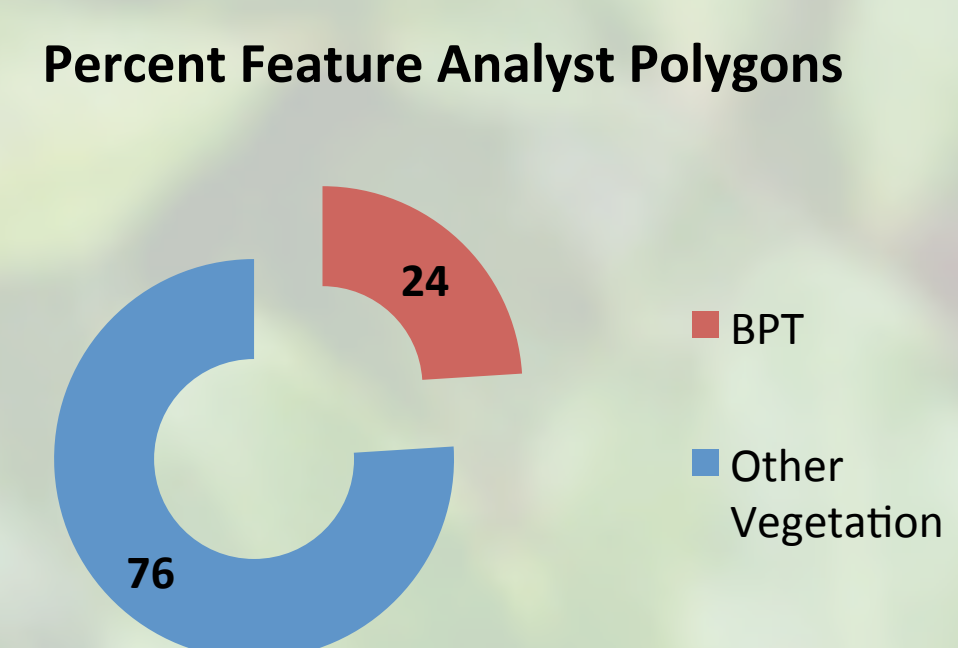
The Project



In 2010 TFS forest health specialists conducted a survey to determine the extent of the Brazilian peppertree infestation in Port Aransas, Texas. Using Google Earth as a base image and field verification, a total of 43.5 acres of Brazilian peppertree were identified. The survey was repeated in 2014 using more automated methodologies. Using a base image from 2013 provided through the National Agriculture Imagery Program (NAIP), ArcGIS 10.2 software by Environmental Systems Research Institute (ESRI) and the Feature Analyst extension, 14,086 vegetation polygons (115.6 acres) were generated. Field verification allowed the discrimination of Brazilian peppertree polygons. Total acreage of Brazilian peppertree in 2014 was estimated to be 54.4 acres.

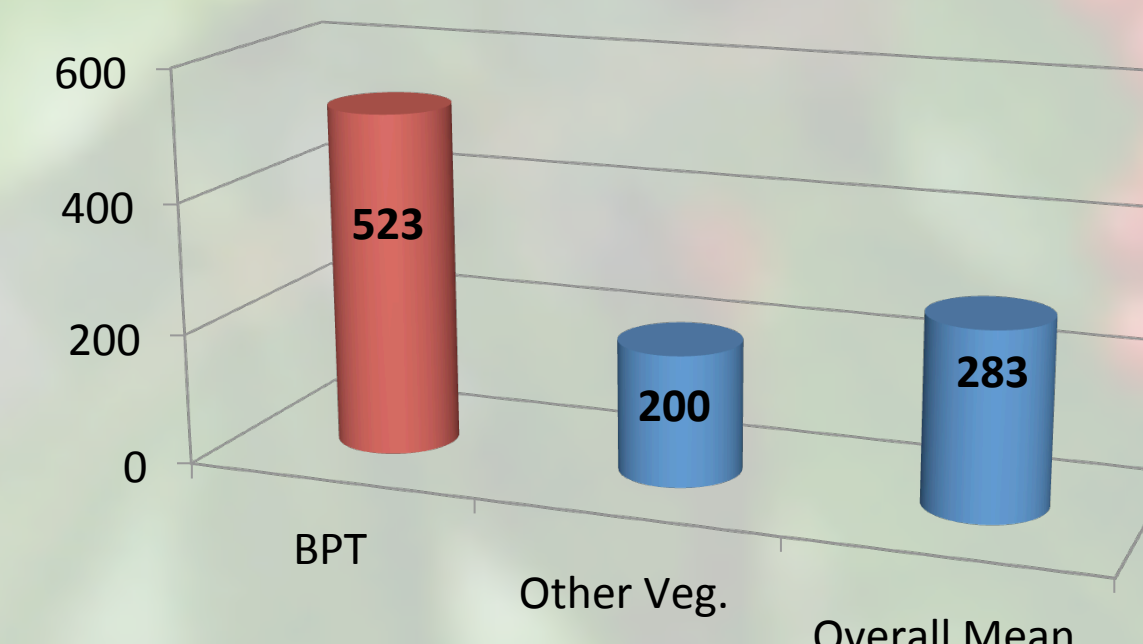


Acres of Brazilian peppertree in Port Aransas, TX increased by 16% from 2010-2014.



24% of the 14,086 Feature Analyst polygons identified as Brazilian peppertree.

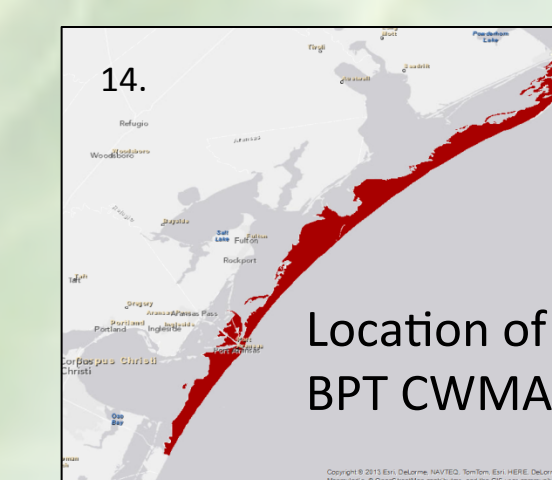
Mean Polygon Size (ft²) by Vegetation Type



Mean Brazilian peppertree polygon size of 523 ft² contrasts sharply with mean sizes of Other Vegetation (200 ft²) and the Overall Mean (283 ft²).

Early 2014 saw the establishment of Texas's first Cooperative Weed Management Area (CWMA). Funded by a \$50,000 grant from the National Fish and Wildlife Federation and matched by the City of Port Aransas, the CWMA stretches the length of Mustang Island from Port O'Connor, Texas to Packery Channel. The intent of the CWMA is to establish a baseline of distribution and impacts of Brazilian peppertree, implement a control pilot project, and to increase public awareness of Brazilian peppertree. Participants include public and private stakeholders with the goal of treating 500 gross acres and restoring 15 acres.

On February 25, 2014, Texas A&M Forest Service personnel from East Texas hosted a Brazilian peppertree removal workday at Charlie's Pasture Nature Preserve in Port Aransas, Texas. Following an extensive public awareness campaign, 75 volunteers including private citizens and members of Texas A&M Forest Service, U.S. Fish and Wildlife Service, Texas Parks and Wildlife Department, National Park Service, Lady Bird Johnson Wildflower Center, Port Aransas, Aransas County, Nueces County, Coastal Bend Bays and Estuaries Program, Texas Audubon Society, Corpus Christi Master Naturalists, and University of Texas Marine Science Institute worked to remove Brazilian peppertrees. TFS participation in this project was funded in part by an invasive species grant from USFS/Forest Health Protection (Region 8).



7 Texas A&M Forest Service sawyers to fell trees. Basal/bark application of herbicide to standing trees, bushes and freshly-cut stumps. Bulldozer with custom herbicide spray rig. Applied 130 gallons of Element 4 (triclopyr) 20% and bark oil 80%. 25 loaded trailers of BPT hauled off and mulched. Equivalent of 25 trailer loads cut and piled. Brazilian peppertree eradicated from ca. 3 acres.



Post-Treatment Assessment – 98% BPT Kill

